

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- 1 1. (Previously Presented) A wireless audio transmission and reception  
2 system comprising:  
  
3 a pulse width amplifier to receive an audio signal and modulate a pulse  
4 width of a digital timing signal with said audio signal, such that  
5 the pulse width is proportional to an amplitude of said audio  
6 signal to provide a pulse width modulated signal;  
  
7 an up-converter in communication with the pulse width amplifier to  
8 receive the pulse width modulated signal and convert said pulse  
9 width modulated signal to a modulated carrier signal;  
  
10 a transmitter in communication with the modulated carrier signal to  
11 transfer the modulated carrier signal wirelessly;  
  
12 a receiver to receive the modulated carrier signal;  
  
13 a down-converter in communication with the receiver to receive the  
14 modulated carrier signal and extract the pulse width modulated  
15 signal from the modulated carrier signal; and

16 an integrator in communication with the down-converter to receive the  
17 extracted pulse width modulated signal to remove a timing  
18 signal from said extracted pulse width modulated signal to  
19 restore the audio signal.

1 2. (Previously Presented) The system of claim 1 further comprising power  
2 amplifier in communication with the integrator to receive the audio signal  
3 and amplify said audio signal and transfer said amplified audio signal to a  
4 transducer.

1 3. (Previously Presented) The system of claim 1 wherein the pulse width  
2 amplifier comprises  
3 a comparator having a first input to receive the audio signal and a  
4 second input to receive the timing signal, said timing signal  
5 having a triangular form such that, as said comparator  
6 compares the audio signal and the timing signal, the pulse width  
7 modulated signal is provided to an output of said comparator.

1 4. (Original) The system of claim 1 wherein the up-converter comprises a  
2 modulation apparatus to combine a carrier frequency with the pulse width  
3 modulated signal to form the modulated carrier signal.

1 5. (Original) The system of claim 4 wherein the modulation apparatus is  
2 selected from a group of modulation apparatus consisting of frequency

3 shift keying modulation apparatus, amplitude shift keying modulation  
4 apparatus, phase shift keying modulation apparatus, quadrature phase  
5 shift keying modulation apparatus, time domain multiple access  
6 modulation apparatus, and code domain multiple access modulation  
7 apparatus.

1 6. (Original) The system of claim 1 wherein the down-converter comprises a  
2 demodulation apparatus to extract the pulse width modulated signal from  
3 the modulated carrier signal.

1 7. (Original) The system of claim 6 wherein the demodulation apparatus is  
2 selected from a group of demodulation apparatus consisting of frequency  
3 shift demodulation apparatus, amplitude shift keying demodulation  
4 apparatus, phase shift keying demodulation apparatus, quadrature phase  
5 shift keying demodulation apparatus, time domain multiple access  
6 demodulation apparatus, and code domain multiple access demodulation  
7 apparatus.

1 8. (Previously Presented) The system of claim 1 wherein the integrator is a  
2 low pass filter having a cut off frequency suitable to pass the audio signal  
3 and remove the timing signal.

1 9. (Original) The system of claim 1 wherein the carrier frequency is at least  
2 900 MHz.

1 10. (Previously Presented) A wireless audio transmitter system comprising"

2 a pulse width amplifier to receive an audio signal and modulate a pulse  
3 width of a digital timing signal with said audio signal, such that  
4 the pulse width is proportional to an amplitude of said audio  
5 signal to provide a pulse width modulated signal;

6 an up-converter in communication with the pulse width amplifier to  
7 receive the pulse width modulated signal and convert said pulse  
8 width modulated signal to a modulated carrier signal; and

9 a transmitter in communication with the modulated carrier signal to  
10 transfer the modulated carrier signal wirelessly.

1 11. (Previously Presented) The transmitter system of claim 10 wherein the  
2 pulse width amplifier comprises

3 a comparator having a first input to receive the audio signal and a  
4 second input to receive the timing signal, said timing signal  
5 having a triangular form such that, as said comparator  
6 compares the audio signal and the timing signal, the pulse width  
7 modulated signal is provided to an output of said comparator.

1 12. (Original) The transmitter system of claim 10 wherein the up-converter  
2 comprises a modulation apparatus to combine a carrier frequency with the  
3 pulse width modulated signal to form the modulated carrier signal.

- 1 13. (Original) The transmitter system of claim 12 wherein the modulation  
2 apparatus is selected from a group of modulation apparatus consisting of  
3 frequency shift keying modulation apparatus, amplitude shift keying  
4 modulation apparatus, phase shift keying modulation apparatus,  
5 quadrature phase shift keying modulation apparatus, time domain multiple  
6 access modulation apparatus, and code domain multiple access  
7 modulation apparatus.
- 8 14. (Original) The transmitter system of claim 10 wherein the carrier frequency  
9 is at least 900 MHz.
- 1 15. (Previously Presented) A wireless audio receiver system comprising"  
2 a receiver to receive a modulated carrier signal;  
3 a down-converter in communication with the receiver to receive the  
4 modulated carrier signal and extract a pulse width modulated  
5 signal from the modulated carrier signal; and  
6 an integrator in communication with the down-converter to receive the  
7 extracted pulse width modulated signal to remove a timing  
8 signal from said extracted pulse width modulated signal to  
9 restore an audio signal.

1 16. (Original) The receiver system of claim 15 wherein the down-converter  
2 comprises a demodulation apparatus to extract the pulse width modulated  
3 signal from the modulated carrier signal.

1 17. (Original) The receiver system of claim 16 wherein the demodulation  
2 apparatus is selected from a group of demodulation apparatus consisting  
3 of frequency shift demodulation apparatus, amplitude shift keying  
4 demodulation apparatus, phase shift keying demodulation apparatus,  
5 quadrature phase shift keying demodulation apparatus, time domain  
6 multiple access demodulation apparatus, and code domain multiple  
7 access demodulation apparatus.

1 18. (Previously Presented) The receiver system of claim 15 wherein the  
2 integrator is a low pass filter having a cut off frequency suitable to pass  
3 the audio signal and remove the timing signal.

1 19. (Previously Presented) The receiver system of claim 15 wherein the  
2 carrier frequency is at least 900 MHz.

1 20. (Previously Presented) A method for wireless transmission of an audio  
2 signal comprising the steps of:

3 acquiring the audio signal;

4 comparing said audio signal with a timing signal;

5 from said comparing, forming a pulse width modulated signal;  
6 up-converting the pulse width modulated signal to a modulated carrier  
7 signal;  
8 transmitting said modulated carrier signal;  
9 receiving said modulated carrier signal;  
10 down-converting said modulated carrier signal to restore the pulse  
11 width modulated signal; and  
12 integrating the restored pulse width modulated signal to remove a  
13 timing signal from said restored pulse width modulated signal to  
14 extract said audio signal.

1 21. (Previously Presented) The method of claim 20 further comprising the  
2 steps of:

3 amplifying the restored audio signal  
4 transferring the amplified audio signal to a transducer.

1 22. (Previously Presented) The method of claim 20 wherein the comparing the  
2 audio signal to the timing signal and forming the pulse width modulated  
3 signal comprises the step of:

4 forming the timing signal to have a triangular waveform;

5 comparing the amplitude of the audio signal to the amplitude of the  
6 triangular waveform;

7 if the amplitude of the audio signal is greater than the amplitude of the  
8 timing signal, setting the pulse width modulated signal to a first  
9 logic level; and

10 if the amplitude of the audio signal is less than the amplitude of the  
11 timing signal, setting the pulse width modulated signal to a  
12 second logic level.

1 23. (Original) The method of claim 20 wherein the up converting the pulse  
2 width modulating signal to the modulated carrier signal comprises the  
3 steps of

4 combining a carrier frequency with the pulse width modulated signal to  
5 form the modulated carrier signal.

1 24. (Original)The method of claim 23 wherein the combining of the carrier  
2 frequency with the pulse width modulated signal is a modulating of the  
3 carrier frequency by the pulse width modulated signals, said modulating  
4 being selected from a group of modulating steps consisting of frequency  
5 shift keying modulating, amplitude shift keying modulating, phase shift  
6 keying modulating, quadrature phase shift keying modulating, time domain  
7 multiple access modulating, and code domain multiple access modulating.



- 1    25.    (Original) The method of claim 20 wherein the down-converting said  
2           modulated carrier signal to restore the pulse width modulated signal  
3           comprises the step of:
- 4           combining a local oscillator signal with the modulated carrier signal to  
5           restore the pulse width modulated signal.
- 1    26.    (Original) The method of claim 23 wherein combining of local oscillator  
2           signal with the carrier frequency is a demodulating of the carrier frequency  
3           to extract the pulse width modulated signals, said demodulating being  
4           selected from a group of demodulating steps consisting of frequency shift  
5           keying demodulating, amplitude shift keying demodulating, phase shift  
6           keying demodulating, quadrature phase shift keying demodulating, time  
7           domain multiple access demodulating, and code domain multiple access  
8           demodulating.
- 1    27.    (Original) The method of claim 20 wherein the carrier signal is at least 900  
2           MHz.